

1/27

Figure 1A

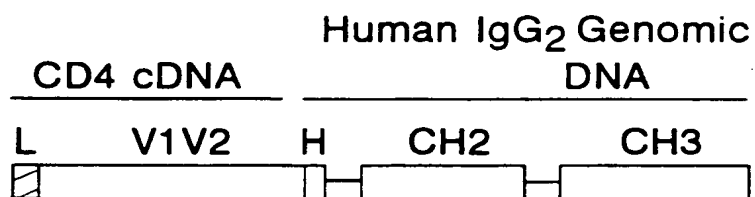
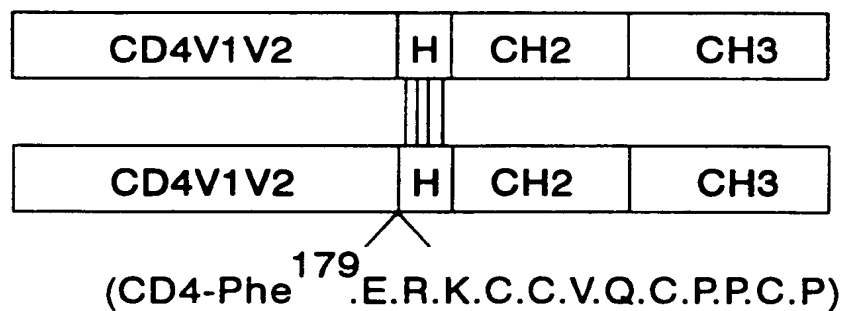


Figure 1B



2/27

Figure 2A

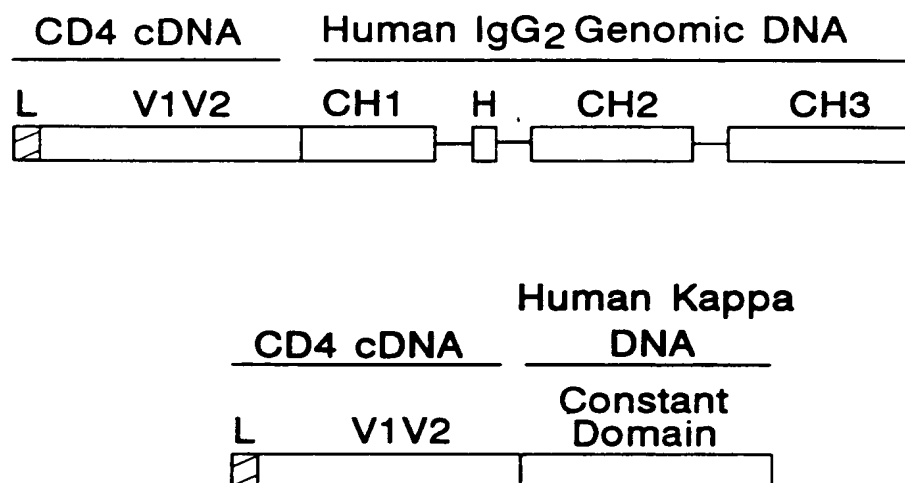
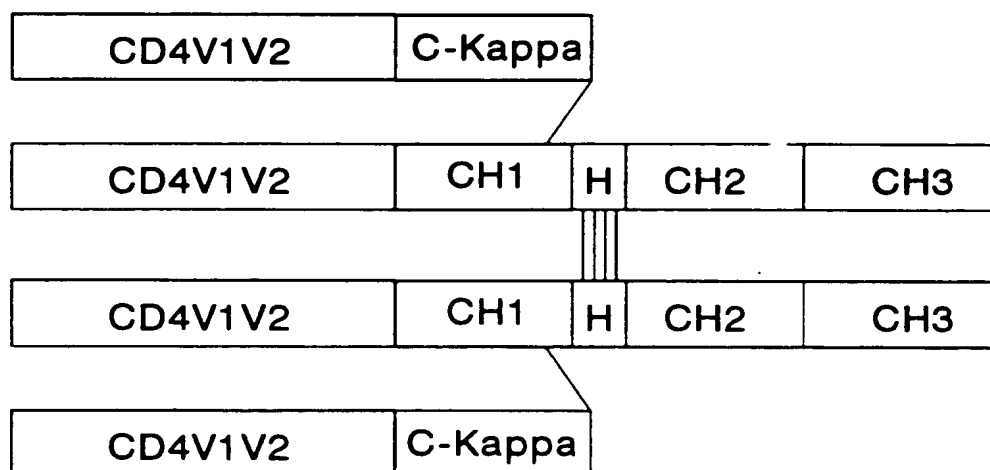


Figure 2B





4/27

G S F L T K G P S K L N D R 312  
GGC TCC TTC TTA ACT AAA GGT CCA TCC AAG CTG AAT GAT CGC

A D S R R S L W D Q G N F P 354  
GCT GAC TCA AGA AGC AGC CTT TGG GAC CAA GGA AAC TTC CCC

+70 I I K N L K I E D S D T Y 396  
CTG ATC ATC AAG AAT CTT AAG ATA GAA GAC TCA GAT ACT TAC

I C E V E D Q K E E V Q L L 438  
ATC TGT GAA GTG GAG GAC CAG AAG GAG GAG GTG CAA TTG CTA

+100 V F G L T A N S D T H L L Q +110 480  
GTG TTC GGA TTG ACT GCC AAC TCT GAC ACC CAC CTG CTT CAG

G Q S L T L T L E S P P G S 522  
GGG CAG AGC CTG ACC CTG ACC TTG GAG AGC CCC CCT GGT AGT

+130 S P S V Q C R S P R G K N I 564  
AGC CCC TCA GTG CAA TGT AGG AGT CCA AGG GGT AAA AAC ATA

5/27

+140  
 Q G K T L S V S Q L E L Q  
 CAG GGG GGG AAG ACC CTC TCC GTG TCT CAG CTG GAG CTC CAG 606

+150  
 D S G T W T C T V L Q N Q K  
 GAT AGT GGC ACC TGG ACA TGC ACT GTC TTG CAG AAC CAG AAG 648

+160  
 K V E F K I D I V V L A F E  
 AAG GTG GAG TTC AAA ATA GAC ATC GTG GTG CTA GCT TTC GAG 690

+170  
 R K C C V E C P P C P  
 CGC AAA TGT TGT GTC GAG TGC CCA CCG TGC CCAGGTAAGCCAGCC 705

+180  
 CAGGCCTCGCCCTCCAGCTCAAGGGGGACAGGTGCCCTAGAGTAGCCTGCATCC 760

+190  
 AGGGACAGGCCCCAGCTGGGTGCTGACACGTCCACCTCCATCTCTTCCTCAGCA 814

+200  
 P P V A G P S V F L F P P K  
 CCA CCT GTG GCA GGA CCG TCA GTC TTC CTC TTC CCC CCA AAA 856

Hinge  
 A  
 CH2

6/27

+210  
 P K D T L M I S R T P E V T  
 CCC AAG GAC ACC CTC ATG ATC TCC CGG ACC CCT GAG GTC ACG 898  
  
 +220  
 C V V V D V S H E D P E V Q  
 TGC GTG GTG GAC GAC GTG AGC CAC GAA GAC CCC GAG GTC CAG 940  
  
 +230  
 F N W Y V D G V E V H N A K  
 TTC AAC TGG TAC GTG GAC GGC GTG GAG GTG CAT AAT GCC AAG 982  
  
 +240  
 T K P R E E Q F N S T F R V  
 ACA AAG CCA CGG GAG GAG CAG TTC AAC AGC ACG TTC CGT GTG 1024  
  
 +250  
 V S V L T V V H Q D W L N G  
 GTC AGC GTC CTC FCC GTT GTG CAC CAG GAC TGG CTG AAC GGC 1066  
  
 +260  
 K E Y K C K V S N K G L P A  
 AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GGC CTC CCA GCC 1108  
  
 +270  
 +280  
 +290  
 P I E K T I S K T K  
 CCC ATC GAG AAA ACC ATC TCC AAA ACC AAAGTGGGACCCGCGGG 1154

**7/27**

TATGAGGGCCACATGGACAGAGCGCGGCTCGGCCACCCCTCTGCCCTGGGAGTGA 1209

3  
H  
C  
↑  
L

$$+ 300$$

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CCGCTGTGCCAACCTCTGTCTCCCTACAGGG CAG CCC CGA GAA CCA CAG 1256

**+310**

**+320**

V Y T L P P S R E E M T K N  
GTG TAC ACC CTG CCC CCA TCC CGG GAG GAG ATG ACC AAG AAC 1298

**+330**

Q V S L T C L V K G F Y P S  
CAG GTC AGC CTG ACC TGC CTG GTC AAA GGC TTC TAC CCC AGC 1340

**+340**

D I A V E W E S N G Q P E N  
GAC ATC GCC GTG GAG TGG GAG AGC AAT GGG CAG CCG GAG AAC 1382

**+350**

**+360**

N Y K T T P P M L D S D G S  
 AAC TAC AAG ACC ACA CCT CCC ATG CTG GAC TCC GAC GGC TCC

1424

**+370**

F F L Y S K L T V D K S R W  
TTC TTC CTC TAC AGC AAG CTC ACC GTG GAC AAG AGC AGG TGG 1466

8/27

+380 +400  
Q Q G N V F S C S V M H E A  
CAG CAG GGG AAC GTC TTC TCA TGC TCC TCC GTG ATG CAT GAG GCT 1508

+410  
L H N H Y T Q K S L S L S P  
CTG CAC AAC CAC TAC ACG CAG AAG AGC CTC TCC CTG TCT CCG 1550

G K stop  
GGT AAA TGAGTGCCACGGCCGGCAAGCCCCCGCTCCCCAGGCTCTCGGGGTCG 1603

CGTGAGGATGCTTGGCACGTACCCCGTGATACATACTTCCAGGCACCCAGCATGG 1658

AAATAAGCACCCAGCGCTGCCCTGGGCCCTGCGAGACTGTGATGGTCTTTCC 1713

GTGGGTCAGGCCGAGTCTGAGGCCCTGAGTGGCATGAGGGAGGCAGAGTGGGTC... 1766





10/27

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      +60
A   D   S   R   R   S   L   W   D   Q   G   N   F   P
GCT GAC TCA AGA AGA AGC CTT TGG GAC CAA GGA AAC TTC CCC 354

      +70
L   I   I   K   N   L   K   I   E   D   S   D   T   Y
CTG ATC ATC AAG AAT CTT AAG ATA GAA GAC TCA GAT ACT TAC 396

      +80
I   C   E   V   E   D   Q   K   E   E   V   Q   L   L
ATC TGT GAA GTG GAG GAC CAG AAG GAG GAG GTG CAA TTG CTA 438

      +90
V   F   G   L   T   A   N   S   D   T   H   L   L   Q
GTG TTC GGA TTG ACT GCC AAC TCT GAC ACC CAC CTG CTT CAG 480

      +100
G   Q   S   L   T   L   L   T   L   E   S   P   P   G   S
GGG CAG AGC CTG ACC CTG ACC TTG GAG AGC CCC CCT GGT AGT 522

      +110
S   P   S   V   Q   C   R   S   P   R   G   K   N   I
AGC CCC TCA GTG CAA TGT AGG AGT CCA AGG GGT AAA AAC ATA 564

```

11/27

```

+140      Q      G      G      K      T      L      S      V      S      Q      L      E      L      Q
CAG GGG GGG AAG ACC CTC TCC GTG TCT CAG CTG GAG CTC CAG      606

          +150
D      S      G      T      W      T      C      T      V      L      Q      N      Q      K
GAT AGT GGC ACC TGG ACA TGC ACT GTC TTG CAG AAC CAG AAG      648
          ↗CH1
          +180
K      V      E      F      K      I      D      I      V      V      L      A      F      A
AAG GTG GAG TTC AAA ATA GAC ATC GTG GTG CTA GCT TTC GCC      690

          +170
S      T      K      G      P      S      V      F      P      L      A      P      C      S
TCC ACC AAG GGC CCA TCG GTC TTC CCC CTG GCG CCC TGC TCC      732

          +190
R      S      T      S      E      S      T      A      A      L      G      C      L      V
AGG AGC ACC TCC GAG AGC ACA GCC GCC GCG CTG GGC TGC CTG GTC      774

          +200
+210      K      D      Y      F      P      E      P      V      T      V      S      W      N      S
AAG GAC TAC TTC CCC GAA CCG GTG ACG GTG TCG TGG AAC TCA      816

          +220
G      A      L      T      S      G      V      H      T      F      P      A      V      L
GGC GCT CTG ACC AGC GGC GTG CAC ACC TTC CCA GCT GTC CTA      858

          +230

```

+240  
Q S S G L Y S L S S V V T V +250  
CAG TCC TCA GGA CTC TAC TCC CTC AGC AGC AGC GTG GTG ACC GTG 900

+260  
P S S N F G T Q T Y T C N V  
CCC TCC AGC AAC TTC GGC ACC CAG ACC TAC ACC TGC AAC GTA 942

+270  
D H K P S N T K V D K T V  
GAT CAC AAG CCC AGC AAC ACC AAG GTG GAC AAG ACA GTTGGTG 985

12/27  
AGAGGCCAGCTCAGGGAGGGAGGTGTCTGTGGAAGCCAGGCTCAGCCCTCCTG 1040

CCTGGACGACCCCGGCTGTGCAGCCCCAGCCAGGCAGCAAGGCAGGCCCAT 1095

CTGTCTCCTCACC CGAGGCCTCTGCCCCGCCCACTCATGCTCAGGGAGAGGTC 1150

TTCTGGCTTTTCCACCAGGCTCCAGGCAGGCACAGGCTGGTGCCCCCTACCCCA 1205

GGCCCTTCACACAGGGCAGGTGCTTGGCTCAGACCTGCCAAAGCCATATCC 1260

13/27

GGGAGGACCCCTGCCCTGACCTAAGCCGACCCCAAGGCCAAACTGTCCACTCCC 1315

TCAGCTCGGACACCTTCTCTCCTCCAGATCCGAGTAAGTCCCAATCTTCTCTCT 1370

→ Hinge  
+280

E R K C C V E C P P C P  
GCAGAG CGC AAA TGT TGT GTC GAG TGC CCA CCG TGC CCAGGTAAG 1415

CCAGCCCAGGCCTCGCCCTCCAGCTCAAGCGGGACAGGTGCCCTAGAGTAGCCT 1470

GCATCCAGGGACAGGCCCCAGCTGGGTGCTGACACGTCACCTCCATCTCTTCCT 1525

└→ CH2

+290  
A P P V A G P S V F L F P P  
CAGCA CCA CCT GTG GCA GGA CCG TCA GTC TTC CTC TTC CCC CCA 1569

+310

K P K D T L M I S R T P E V  
AAA CCC AAG GAC ACC CTC ATG ATC TCC CGG ACC CCT GAG GTC 1611

+320

+330

T C V V D V S H E D P E V  
ACG TGC GTG GTG GAC GTG AGC CAC GAA GAC CCC GAG GTC 1653

14/27

Q F N W Y V D G V E V H N A 1695  
 CAG TTC AAC TGG TAC GTG GAC GGC GTG GAG GTG CAT AAT GCC  
 +340  
 K T K P R E E Q F N S T F R 1737  
 AAG ACA AAG CCA CGG GAG GAG CAG TTC AAC AGC ACG TTC CGT  
 +350  
 +360 V S V L T V V H Q D W L N 1779  
 GTG GTC AGC GTC CTC ACC GTT GTG CAC CAG GAC TGG CTG AAC  
 +370  
 G K E Y K C K V S N K G L P 1821  
 GGC AAG GAG TAC AAG TGC AAG GTC TCC AAC AAA GGC CTC CCA  
 +380  
 +390 A P I E K T I S K T K 1866  
 GCC CCC ATC GAG AAA ACC ATC TCC AAA ACC AAAGTGGGACCCGC  
 GGGGTATGAGGGCCACATGGACAGAGCGCGGCTCGGCCACCCCTCTGCCCTGGGA 1921  
 →CH3  
 +400  
 G Q P R E P Q 1972  
 GTGACCGCTGTGCCAACCTCTGTCCCTACAGG CAG CCC CGA GAA CCA CAG

15/27

+410  
 V Y T L P P S R E E M T K N  
 GTG TAC ACC CTG CCC CCA TCC CGG GAG GAG ATG ACC AAG AAC 2014

+420  
 Q V S L T C L V K G F Y P S  
 CAG GTC AGC CTG ACC TGC CTG GTC AAA GGC TTC TAC CCC AGC 2056

+430  
 D I A V E W E S N G Q P E N  
 GAC ATC GCC GTG GAG TGG GAG AGC AAT GGG CAG CCG GAG AAC 2098

+440  
 N Y K T T P P M L D S D G S  
 AAC TAC AAG ACC ACA CCT CCC ATG CTG GAC TCC GAC GGC TCC 2140

+450  
 F F L Y S K L T V D K S R W  
 TTC TTC CTC TAC AGC AAG CTC ACC GTG GAC AAG AGC AGG TGG 2182

+460  
 Q Q G N V F S C S V M H E A  
 CAG CAG GGG AAC GTC TTC TCA TGC TCC GTG ATG CAT GAG GCT 2224

+470  
 L H N H Y T Q K S L S L S P  
 CTG CAC AAC CAC TAC ACG CAG AAG AGC CTC TCC CTG TCT CCG 2266

+480  
 +490  
 +500

16/27

G K stop

GGT AAA TGAGTGCCACGGCCGGCAAGCCCCCGCTCCCCAGGCTCTCGGGGTCG 2319

CGTGAGGATGCTTGGCACGTACCCCGTGATACATACTTCCCAGGCACCCAGCATGG 2374

AAATAAGCACCCAGCGCTGCCCTGGGCCCTGCCGAGACTGTGATGGTCTTTCC 2429

GTGGGTCAGGCCGAGTCTGAGGCCCTGAGTGGCATGAGGGAGGCAGAGTGGGTC... 2482



FIGURE 5

|                   |
|-------------------|
| 17/27<br>FIGURE 5 |
| 18/27             |
| 19/27             |
| 20/27             |

CAAGCCAGAGCCCTGCCATTCTGTGGGCTCAGGTCCCTACTGCTCAGCCCCCTT 55  
 CCTCCCTCGGAAGGCCACAATG AAC CGG GGA GTC CCT TTT AGG CAC 102  
 M N R G V P F R H  
 -20  
 -10  
 L L L V L Q L A L L P A A T  
 TTG CTT CTG GTG CTG CAA CTG GCG CTC CTC CCA GCA GCC ACT 144  
 -1 +1 +10  
 Q G K K V V L G K K G D T V  
 CAG GGA AAG AAA GTG GTG CTG GGC AAA AAA GGG GAT ACA GTG 186  
 +20  
 E L T C T A S Q K K S I Q F  
 GAA CTG ACC TGT ACA GCT TCC CAG AAG AAG AGC ATA CAA TTC 228  
 +30 +40  
 H W K N S N Q I K I L G N Q  
 CAC TGG AAA AAC TCC AAC CAG ATA AAG ATT CTG GGA AAT CAG 270  
 +50  
 G S F L T K G P S K L N D R  
 GGC TCC TTC TTA ACT AAA GGT CCA TCC AAG CTG AAT GAT CGC 312

17/27



19/27

```

+140      +150
  Q  G  G  G  G  G  K  T  L  S  V  S  Q  L  E  L  Q
CAG GGG GGG AAG ACC CTC TCC GTG TCT CAG CTG GAG CTC CAG      606

      +160
  D  S  G  G  T  W  T  C  T  V  L  Q  N  Q  K
GAT AGT GGC ACC TGG ACA TGC ACT GTC TTG CAG AAC CAG AAG      648
      ↳Ckappa
      +180
  K  V  E  F  K  I  D  I  V  V  L  A  F  T
AAG GTG GAG TTC AAA ATA GAC ATC GTG GTG CTA GCT TTC ACT      690

      +190
  V  A  A  P  S  V  F  I  F  P  P  S  D  E
GTG GCT GCA CCA TCT GTC TTC ATC TTC CCG CCA TCT GAT GAG      732

      +200
  Q  L  K  S  G  T  A  S  V  V  C  L  L  N
CAG TTG AAA TCT GGA ACT GCC TCT GTT GTG TGC CTG CTG AAT      774

      +210
  N  F  Y  P  R  E  A  K  V  Q  W  K  V  D
AAC TTC TAT CCC AGA GAG GCC AAA GTA CAG TGG AAG GTG GAT      716

      +230
  N  A  L  Q  S  G  N  S  Q  E  S  V  T  E
AAC GCC CTC CAA TCG GGT AAC TCC CAG GAG AGT GTC ACA GAG      758

```

Q D S K D S T Y S L S T L +250  
CAG GAC AGC AAG GAC AGC ACC TAC AGC CTC AGC AGC ACC CTG 900

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| T   | L   | S   | K   | A   | D   | Y   | E   | K   | H   | K   | V   | Y   | A   |
| ACG | CTG | AGC | AAA | GCA | GAC | TAC | GAG | AAA | CAC | AAA | GTC | TAC | GCC |

+260

942

+270  
C E V T H Q G L S S P V T K  
TGC GAA GTC ACC CAT CAG GGC CTG AGC TCG CCC GTC ACA AAG 984

|      | S   | F   | N   | R   | G   | E   | C   | stop |                                |
|------|-----|-----|-----|-----|-----|-----|-----|------|--------------------------------|
| +280 | AGC | TTC | AAC | AGG | GGA | GAG | TGT | TAG  | AGGGAGAAAGTGCCCCCACCTGCTC 1032 |

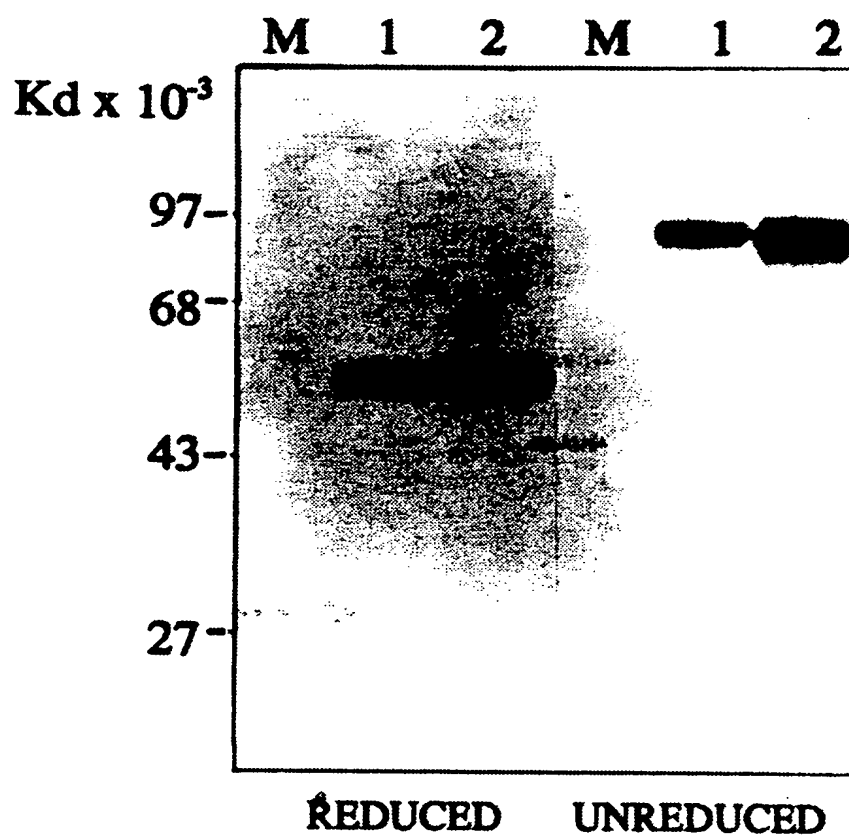
CTCAGTCCAGCCTGACCCCTCCCATCTTGGCTCTGACCCCTTTTCCACAGG 1088

GGACCTACCCCTATTGCGGTCCCAAGCTCATCTTCACTCACCCCTCCTCC 1144

TCCTT

21/27

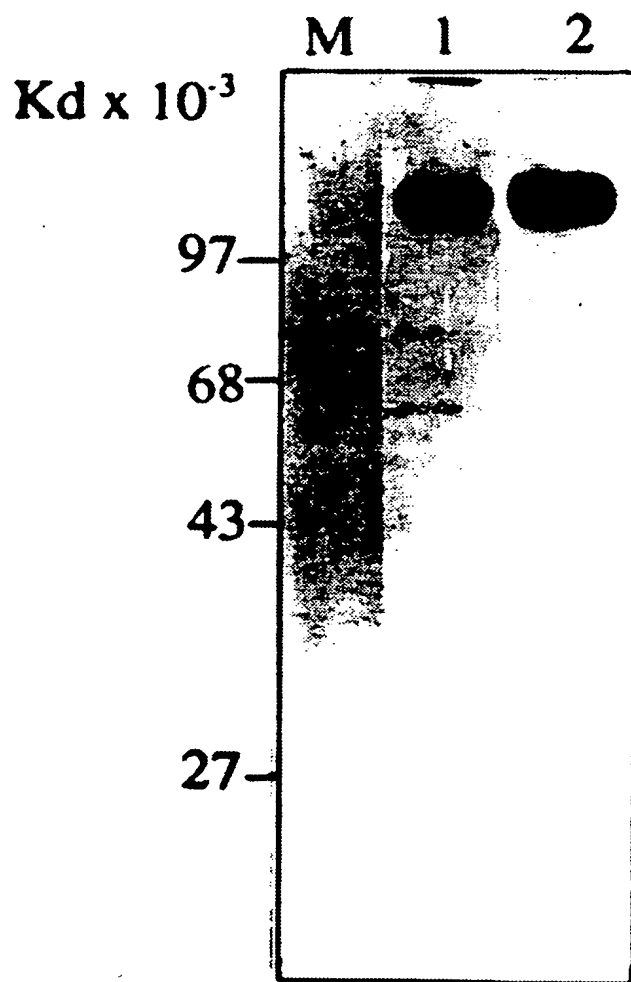
Figure 6



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22/27

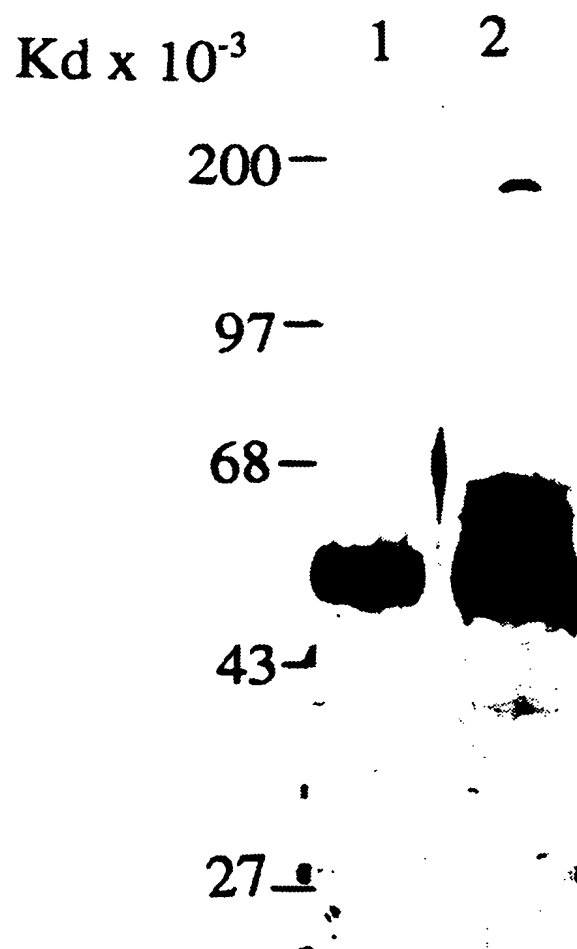
Figure 7



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23/27

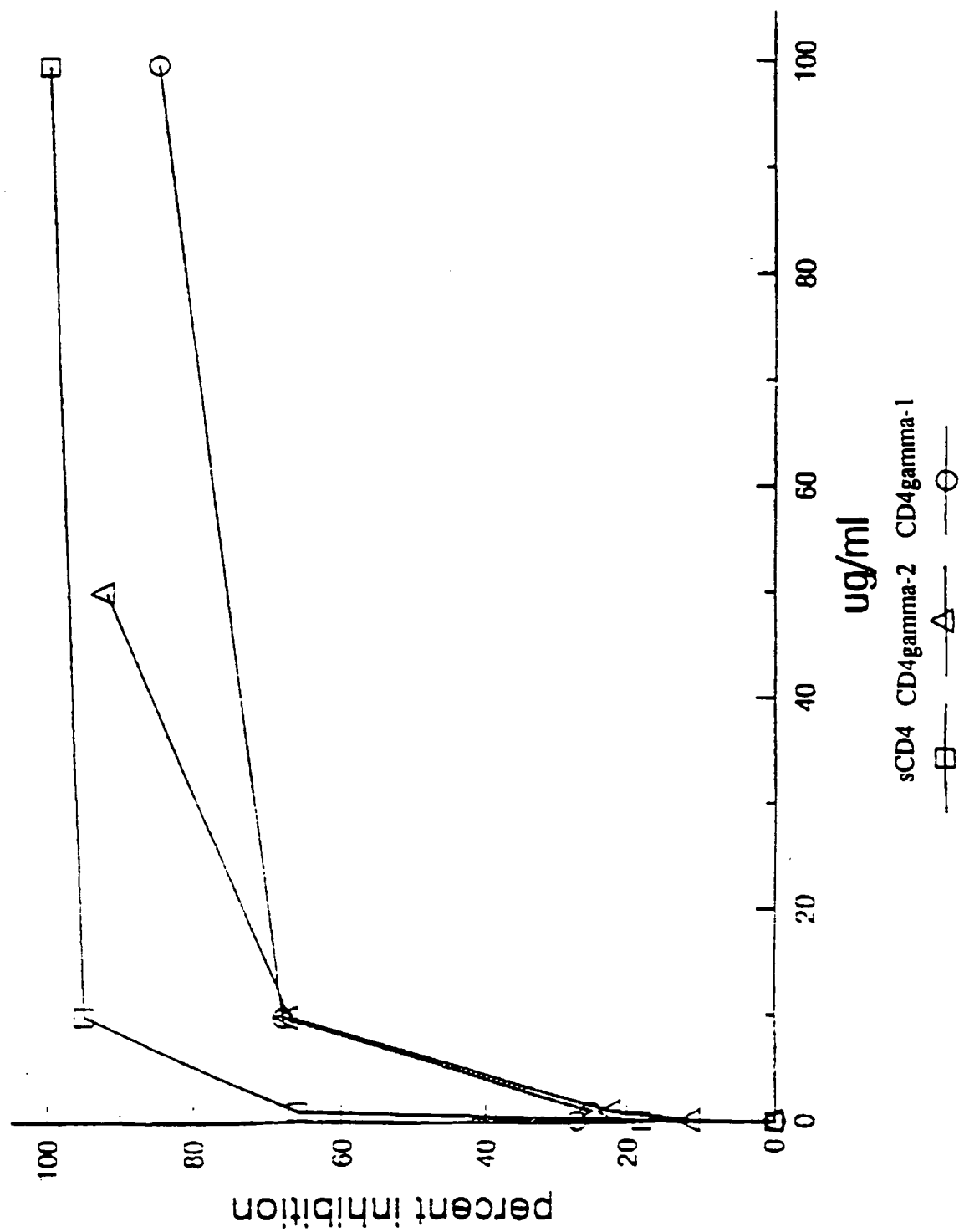
Figure 8



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24/27

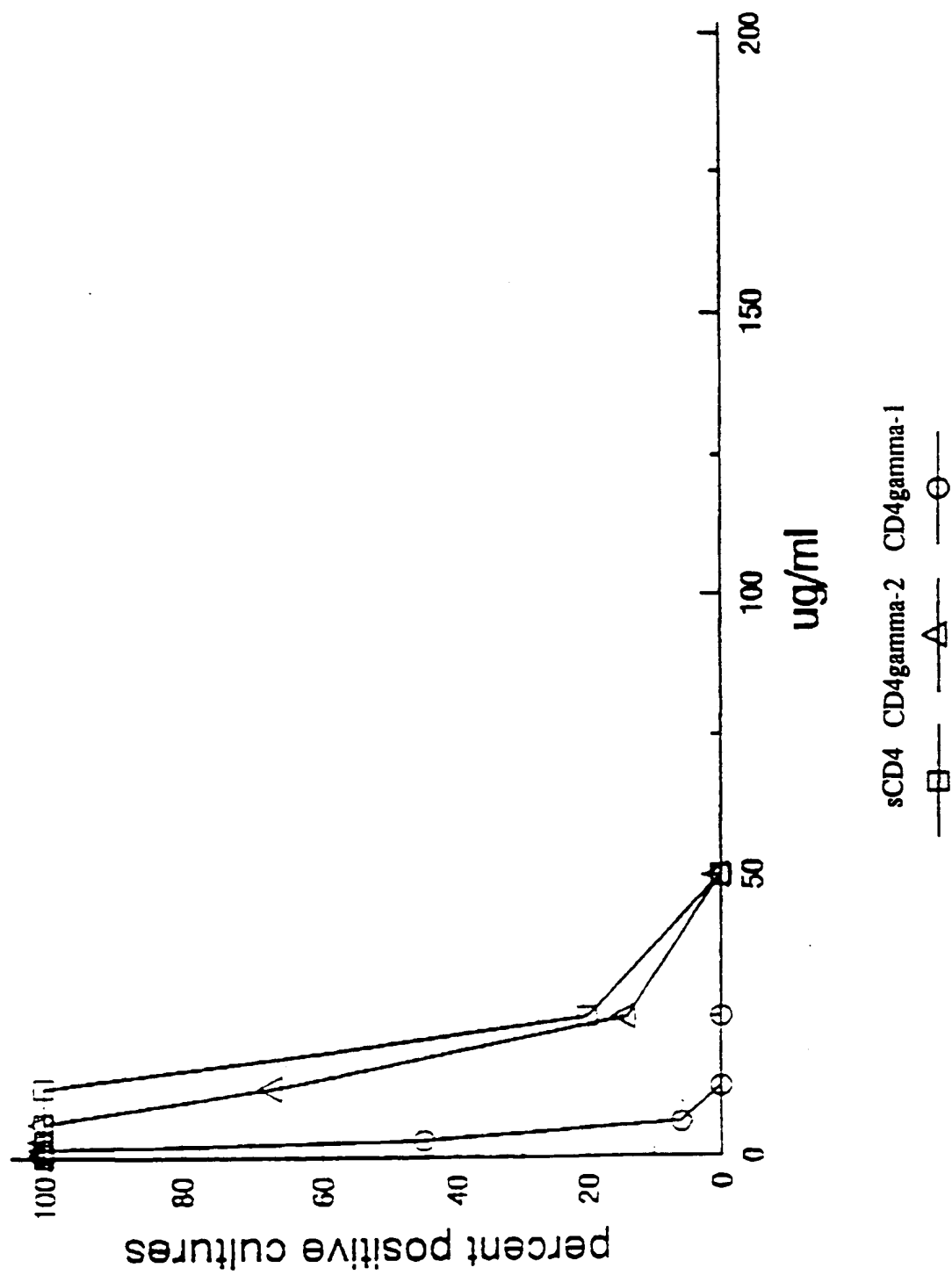
FIGURE 9





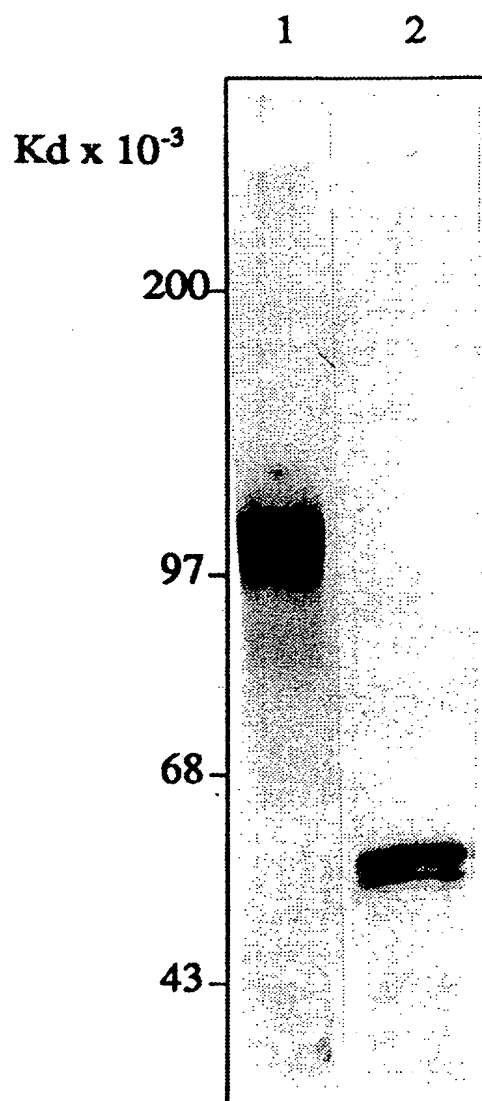
25/27

FIGURE 10



26/27

Figure 11



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Figure 12B

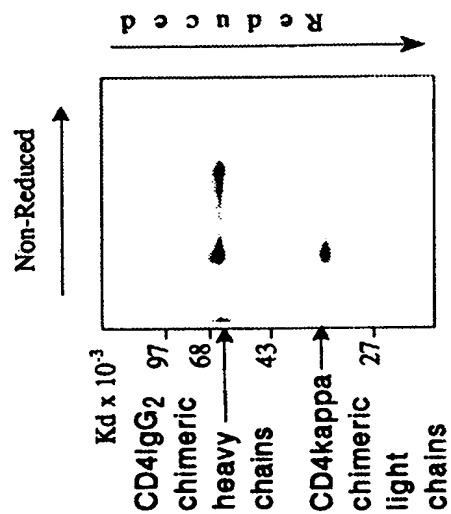
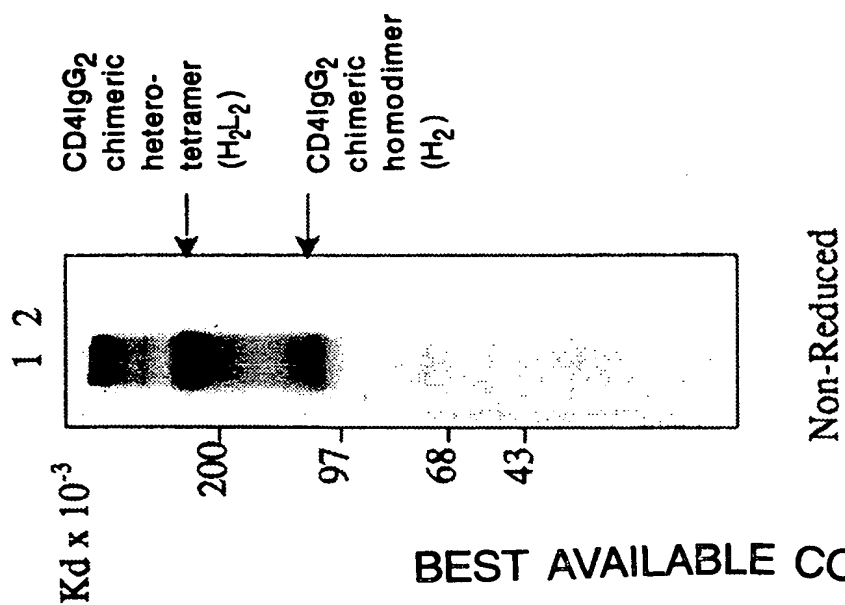


Figure 12A



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